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Amateur Photographer.

PHOTOGRAPHY FOR BEGINNERS.

V.—LIGHT AND SHADE.

INASMUCH as the photographer is obliged to produce his effects by light and shade, since he is debarred from the use of color, his command of what is technically known as *chiaro-oscuro* should be as complete as he can make it by study and practice.

By *chiaro-oscuro* we mean the proper management of light and shade in a picture in order to produce a pictorial effect. By the proper distribution of lights and shades breadth of effect is produced, which prevents the confusion and perplexity which are certain to be present when the eye is attracted by masses of light and shade of equal importance.

What a photographic print needs to relieve it from tameness is variety in the distribution of light and shade; but it must be a variety governed by rules, not the haphazard work of the moment. Natural light is shed indiscriminately on all objects. Prominent features are often thrown into shade, while subordinate objects are brought unduly forward. A landscape photographed under such conditions of light would not be at its best, and the print would be unsatisfactory. As a help to understanding this somewhat difficult department of art, I can do no better than to give a few simple rules formulated by a competent authority:

1. The general scheme of light and shade must be simple.

2. The point, or region, of greatest interest must be made the point, or region, of greatest contrast.

3. All other contrasts must not only be subordinate to this, but must tend to give it value and prominence.

4. The transition from light to shade, and vice versa, must be gradual.

5. In all good designs there must exist a more or less fixed proportion between the extremes and their means, the latter generally predominating.

These rules are few and simple, and their application soon becomes a matter of intuition.

But it rarely happens that a landscape is in its best conditions of lighting when the camera is first brought into action. The photographer must therefore learn to select and arrange, and, above all things, to wait. In no part of art is judicious selection of more importance than in the choice of light and shade, and this should be made the subject of careful study and constant practice.

I have already said that the chief object to attain is breadth, but this does not mean a broad expanse of equal light and shadow, which would produce tameness. For this reason a view should rarely be taken with the sun directly behind the camera. The light should fall across the picture. The proportion of high light and deep shadow in a picture should be comparatively small; the intermediate tones should predominate.

One of the finest effects in photography is obtained when a landscape is illuminated from the side with the sun well down toward the horizon, leaving the foreground in shadow, with the distance well illuminated.

In the arrangement of light and shade it must always be borne in mind that the centre is the weakest point of a picture, and that therefore both the principal object and the chief light must be kept away from it.

If possible, the general sweep of light should fall diagonally across the picture rather than horizontally or vertically. Hence most subjects are better photographed in morning or evening light rather than under the vertical rays of the noon-day sun. The light should be focussed; that is, the lightest light should be opposed to the darkest dark. A dark figure, a clump of trees, a group of buildings standing out against the brightest part of the sky, add brilliancy to the composition.

One of the most effective arrangements of light and shade is in wedge-shaped masses, but the end of the wedge should be supported by a mass of extreme light or dark in the foreground.

It is highly important that there be no sharp line of demarcation between the two extremes; each should fade away into the other in a thousand minor gradations.

While it is generally better to have the scene illuminated by a wisely-distributed side light, there are occasions when a front light produces charming effects. This is particularly true of masses of trees, which by this means "are transformed into broad masses of

shadow delicately tipped and outlined with silvery light," and throwing their shadows forward toward the spectator, as though beckoning him forward.

The above hints are necessarily sketchy and incomplete, but they include sufficient to set the young photographer on the right track; the rest is simply a matter of study and practice.

To conclude this part of my subject, I may be allowed to quote some words of mine written for another purpose, but equally applicable here: "The shady nook, the tree-shadowed wood-road, the forest glade, have their hour of greatest beauty, when they have donned their most charming robes to enchant the delighted beholder. Then the shadows fall most quietly across the sward, the sunlight glints most entrancingly on leaf and trunk. [At such a time the wary photographer may secure a view well worth weary miles of tramping and hours of waiting for the smile that comes but seldom, and is quickly gone.]"

There is a science of cast shadows, which must be learned by him who would be past apprentice in the art of interpreting nature. As a help toward acquiring the rudiments of this science, it is to be noted that there are four principal positions of the sun which so modify the shadows as to produce a total change of effect in the aspect of a given view. When the view is illuminated from the side the cast shadows are parallel with the plane of the picture, and the illuminated objects are partly lighted, partly shaded. The length of the shadows, of course, varies with the height of the sun above the horizon. In general, the best effects are had when the sun is not more than two hours high. Then the shadows are at their best, relieving and breaking up the foreground and the distance. This is the favorite direction of illumination with photographers, and it lends itself well to the broad treatment of open landscapes.

When the illumination is in front, the shadows cross the picture plane, and the masses of shade are larger and more massive.

Judiciously handled, this method of illumination gives charming effects in photography. The long shadows running out into the foreground lead the eye naturally into the distance, and foliage is beautifully brought out. Views of broad, open stretches of water thus illuminated show a sparkle and a brilliancy which are well rendered by photography.

When the illumination is from behind the spectator, the shadows are concealed by the objects casting them, and we have the effect of broad masses of light. Such views are apt to be tame and flat, unless deep shadows appear in the foreground, cast by objects which do not appear in the picture. Then an air of mystery is imparted. There is always a disagreeable spottiness about such pictures, however, which is almost sure to ruin the effect of a photographic print.

On the whole, we may conclude that the best general illumination is from the side and a little behind the spectator, since then the shadows fall diagonally across the picture and impart a better perspective effect.

W. H. B.

READY SENSITIZED PAPER.

OWING to the great convenience attending its use, ready sensitized paper is quite generally employed, even by those who find the results somewhat inferior to those obtained on freshly prepared paper. That it is possible to obtain prints on ready sensitized paper closely approaching those made on fresh paper admits of easy demonstration, and the only reason why so many fail to produce such prints is that they do not use the paper rightly.

The reason for the failure is not far to seek. Ready sensitized paper is in a decidedly acid condition, owing to the acid used to preserve. Unless this excessive acidity is overcome before toning good prints cannot be produced, since an acid toning bath will not tone well. The remedy, then, is to be found in the use of an alkaline bath after printing in order to correct the acidity of the paper, and in strong fuming. Ready sensitized paper should be fumed at least thirty minutes—one hour would generally be better—especially for thin negatives.

The printing should be one or two shades darker than the tone desired in the finished print. When the printing is completed the prints are immersed one by one, faces down, in a bath of clean water, care being taken that each print is thoroughly wetted before the next is immersed. The prints must be kept in constant motion and turned over, now and then, for five minutes. The

water is then changed for fresh. These operations are to be repeated until the wash water shows no trace of milkiness, since the toning bath to be recommended requires that all the free silver be washed out.

The following stock solutions should have previously been made up:

No. 1, Chloride of gold.....	15 grains.
Water	7½ ounces
No. 2, Bicarbonate of soda.....	1 ounce.
Water.....	8 ounces.

After the prints are thoroughly washed, they are immersed for ten minutes in a bath composed of one ounce of No. 2, and twenty ounces of water. They are then ready for the toning bath, which is made by adding one ounce each of No. 1 and No. 2 to twelve ounces of water for each sheet of paper to be toned. The prints are kept in constant motion while in the toning bath, and are toned to a lilac or purple. After washing in two or three changes they are fixed for fifteen minutes in a 1 to 5 hyposulphite of soda solution to which a little salt has been added. After a thorough washing the prints are dried, and will then be found to have a richness and warmth of tone which leave little to be desired. W. H. B.

Flexible Films.—Many attempts have been made to find a perfect substitute for glass as the support for the sensitive film. Such a substitute should be as transparent as glass, without its weight and liability to break, and it ought not to be more expensive, although this is a minor point, provided the other conditions are successfully met.

Within the last few years many partially successful attempts to solve this problem have been made, the best known being the Eastman negative paper and the America stripping film, made by the same company. So far as lightness and freedom from possibility of breakage goes, these methods leave nothing to be desired, and they possess besides the very great advantage of allowing many exposures to be made on a continuous roll without the necessity of changing plates. Sensitive films prepared in either of these ways can be sold more cheaply than glass. But their undoubted advantages are to a great degree counterbalanced by their want of transparency, which adds to the difficulties of development, and which necessitate further manipulation to bring them into good printing condition. Paper films must be oiled, and stripping films stripped from the paper support, and mounted on gelatine skins or glass plates before they are ready for the printing frame. Both of these operations are messy, troublesome and more or less uncertain. Hence, neither of these methods can be said to furnish a perfect solution of the problem.

Quite recently, however, attempts have been made in quite a different direction. The substance known as celluloid can be produced in sheets of extreme tenuity, and of a transparency equal to glass. Sheets of celluloid, coated with a sensitive emulsion, are now in the market under the name of Flexible and Ivory films. These films are light, tough and flexible, and of almost inappreciable weight, twenty-four 5 x 8 films weighing but 7½ ounces, as against 110 ounces for the same number of glass plates. Owing to the fine matt surface, all halation is avoided, and the extreme thinness of the films—one hundredth of an inch—admits of printing from the reverse side, if precaution is taken to allow only vertical rays to strike the film.

The films can be exposed in an ordinary plate holder, and their treatment in development, etc., is exactly the same as that of glass plates, no after-process being required.

One or two points connected with the development of these films may be mentioned for the benefit of those who wish to try them.

Before applying the developer, it is well to soak them in water for a short time. As soon as the developer is applied, it is a safe precaution to pass a tuft of cotton over the face of the film, to remove any air bells.

After fixing and washing, the film should be treated for five minutes with a solution of glycerine and water—glycerine, one ounce; water, twenty ounces—passing a tuft of cotton over the surface just before taking out of the solution. The film is then hung up to dry by a spring clip.

Here, then, it would seem, is a perfect substitute for glass, and one which will prove a great boon to tourist photographers. The only hindrance to the general use of flexible films is their somewhat high price, due to the monopolistic price at which celluloid is held.